ORIGINAL ARTICLE

Hormone replacement therapy: post-menopausal sex life and attitudes towards sex

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Abstract

Background: Menopause is a natural phase of life, but it can bring about physical problems for women. It seems that hormone replacement therapy (HRT) can be helpful in preventing problems at this stage of life. Patient and physician attitudes regarding menopause and HRT may affect decisions about the use of HRT. This study was conducted to determine attitudes about the importance of sex in menopausal women and examine the relationship between HRT and sex life after menopause.

Methods: This is a comparative study that was done in the year 2000. The questionnaire used had two main parts. One hundred and fifty-four women receiving HRT were chosen from private gynecology clinics north of Tehran city and 130 women who were not receiving HRT were chosen from the neighborhood of the HRT group. The sex lives and attitudes towards sex of the women before and after menopause were then compared, and the results were tabulated in 55 tables. Descriptive and inferential statistical methods were used.

Results: The average age in the HRT group was 53 years and that in the non-HRT group was 56 years. There was a significant difference in the average age between the two groups ($P < 0.001$). The average number of years post-menopause was 3.9 in the HRT group and 5.9 in the non-HRT group. In the HRT group, 91.9% of the women used the hormone as prescribed by their physician. In this group, 85.7% of the women were of the opinion that sex was important, but this proportion in the non-HRT group was 25.4%. There was a significant difference between the HRT and non-HRT groups ($P < 0.001$). Compared to the attitudes before menopause, the attitudes about the importance of sex in 56.5% of the HRT group and 19.2% of the non-HRT group did not change after menopause. Women receiving HRT fared better in all aspects of their sex life, including libido, sexual activity, sexual satisfaction, sexual pleasure, frequency of orgasms and sexual importance at the time of the study. There were significant differences between the HRT and non-HRT groups ($P < 0.001$). With respect to sexual pleasure, 6.5% of the HRT group and 4.6% of the non-HRT group experienced greater pleasure; 68.5% of the HRT group and 11.5% of the non-HRT group experienced no change; and 83.8% of the non-HRT group experienced less pleasure. There was a significant difference between the two groups with respect to the change in sexual pleasure ($P < 0.001$).

Conclusion: Although the importance of sex decreased for elderly women in both the HRT group and non-HRT group, HRT affected their attitudes about the importance of sex. There was a significant difference between the HRT group and non-HRT group in this area ($P < 0.001$). The importance of

sex in the HRT group did not change much after menopause, compared to the non-HRT group. There was a significant difference between the two groups ($P < 0.001$). There were fewer changes in all aspects of sex life after menopause for those in the HRT group compared to those in the non-HRT group. In the month before the interview, 30.5% of the HRT group and 10.8% of the non-HRT group had experienced complete sexual satisfaction. The difference was significant between the two groups ($P < 0.001$). On the basis of the importance of sex during post-menopausal life, counseling on the benefits of HRT might be recommended.

Key words: *attitude towards sex, hormone replacement therapy, menopause, sex life.*

INTRODUCTION

Menopause is a natural phase of life, but it can bring about physical problems for women. The menopausal syndrome includes a variety of symptoms, such as fatigue, headache, nervousness, loss of libido, insomnia, depression, irritability, palpitations, and joint and muscle pain.[1] It is also often accompanied by physical symptoms like hot flushes and emotional changes, such as mood swings. There is an increased tendency towards obesity.[2] Stadberg *et al*. found the prevalence of climacteric symptoms as follows: vasomotor symptoms (53%), depression/irritability (57%), disturbed sleep (52%), muscle/joint pain (57%), loss of libido (37%) and vaginal dryness (27%).[3] Vaginal discomfort is often accompanied by a loss of libido and disruption of interpersonal relations.[4] The sex drive may not be diminished, but some women find it difficult to accept that they are no longer fertile.[2]

These changes are caused by a fall in the production of estrogen by the ovaries.[2] The exhaustion of gonadothropine-responsive follicular unites is responsible for the reduction in estrogen secretion and the cessation of menses.[5] Haas and Schiff have reported that the effect of menopause on women's health varies. Estimates indicate that 75% of menopausal women experience some problems or discomfort, but only 10–20% seek medical help.[6] According to Blumberg *et al.*, physicians tend to define menopause as a deficiency disease; that is, characterized by a lack of estrogen that is correctable by hormone replacement therapy (HRT).[7] It seems that HRT can be helpful in preventing problems at this stage of life. Since the 1980s, many doctors have begun to recommend HRT because of its potential for preventing osteoporosis, cardiovascular disease and Alzheimer's disease.[8,9] According to Beck, hormone replacement usually eliminates hot flushes and night sweats. Estrogen replacement provides a good prophylaxis against atrophic vaginitis, dysparunia and degenerative changes in the urethra and urinary bladder. Affective symptoms—depression, insomnia, irritability and loss of concentration—generally are improved with estrogen therapy. Atrophic vaginitis requires continuous therapy, but vaginal relaxation is not responsive to estrogen therapy. Hormone replacement also induces a series of changes, which help the skin to retain a youthful appearance.[1] According to Kingsberg, HRT in menopausal women improves the sexual function and protects their genital health.[10]

The prevalence of current HRT use in the study conducted by Ghali *et al.* was 19.8%, whereas 31.2% were either current or former HRT users. They have suggested that proper communication might enhance HRT counseling and assist women in making decisions.[11] The estimated percentages of HRT users in different countries are as follows: 2% in Italy, 4% in Spain, 15% in the Netherlands, 20% in Austria and Sweden, and 56% in Finland.[12] HRT is used widely in the USA. HRT use varies according to region, being highest in the West and lowest in the North-east.[13] According to Leo *et al.*, there is some evidence which shows that women taking hormones from the onset of menopause will live 4 years longer than those who have never received HRT.[4] Other studies have shown that morbidity and mortality are reduced in postmenopausal women receiving HRT.[11]

It is important, when considering the outcome of any health care intervention, to measure how such intervention meets the patients' needs and expectations.[14] Patient and physician attitudes regarding menopause and HRT may affect decisions about the use of HRT. A number of studies have shown considerable differences in attitudes among women and physicians on issues relating to menopause and

HRT.[11] Blumberg *et al*. have conducted research with the objective of determining how women aged 50 years or more felt about menopause, as well as determining their knowledge and use of HRT, and their attitudes towards it. They believe gynecologists should devote more effort to public education, because those women who had discussed HRT with their physicians were more likely to use it.[7]

There is a prevalent notion that sex does not matter in old age. According to Scott *et al.*, Masters and Johnson have shown that there is a limited sexual flush in elderly women.[5] But the sex life is an important aspect of health that is likely to be influenced by medical conditions and health care interventions.[14] Ghali *et al*. suggested that physicians should pay more attention to their patients' menopausal attitudes and general health beliefs. Improved patient–physician communication may enhance menopausal HRT counseling and assist women in making decisions relating to menopause.[11] Higher-educated women are also more likely to use HRT.[12] Rosenberg *et al*. found that HRT use peaked at 50–54 years of age and then declined, and that it was also positively associated with a lower body mass index, higher level of education, participation in vigorous exercise and previous use of oral contraceptives. There was concern that the study results might be confounded; therefore, users of HRT were self-selected and the well-educated group used HRT more than the others.[13]

Making the appropriate decision regarding the use of menopausal hormone therapy is difficult for women and their physicians. Counseling on HRT should be individualized, because recent reviews have clearly demonstrated that individual patients' medical and family histories can alter the anticipated benefits and risks of hormone therapy.[11] Information about the family history of osteoporosis, cancer and cardiovascular disease should be sought.[4] It has also been suggested that there is insufficient information about the potential benefits (and side effects) of HRT in the general population.[12] In order to be effective primary care providers, midwives and other health-care professionals also need adequate scientific knowledge and the skills required to accurately assess and diagnose clinical problems.[15]

On the basis of the above-mentioned studies, and the fact that the sex life and sexual functioning are important aspects of married life, the objectives of this study were to examine the relationship between HRT and sex life after menopause, and also to assess the importance of sex in women receiving HRT.

METHOD

This is a comparative study that was done in the year 2000. In this study, attitudes about the importance of sex were assessed. The sex life at the time of the study and changes to the sex life after menopause were examined. A valid and reliable questionnaire was used. The questionnaire had two main parts. The first part contained questions about personal characteristics, while the second part was divided into two sections:

1 10 questions covering libido, sexual activity, sexual satisfaction, sexual pleasure and frequency of orgasms, and their changes post-menopause. Each question had four answer options.
2 Two questions covering attitudes towards sex and their changes post-menopause. Each question had five answer options.

The answer options related to the subject of each question were described in terms of the degree of change, from the least to the most. The subjects of the questions were described as follows: (i) libido (sexual will); (ii) sexual activity (performing the sexual act); (iii) sexual satisfaction (the satisfaction gained by having sex); (iv) sexual pleasure (sexual enjoyment); (v) orgasm (the highest level of sexual enjoyment); and (vi) attitudes towards sex (importance of sex).

The samples used in this study consisted of 154 women who were treated using HRT and 130 women who did not receive HRT. The HRT group was chosen from private gynecology clinics north of Tehran city and the non-HRT group was chosen from among the neighbors of the HRT group. For socio-economic similarity, we tried to choose the non-HRT group members from among the immediate neighbors (left- or right-hand side) of the HRT group. Healthy individuals of more than 45 years in age who were not taking any drugs, and who did not have a history of frigidity and had not had a hysterectomy, opharectomy or mastectomy were chosen. All of them had had their last period at least 12 months ago and had not changed partners since their pre-menopausal days. The descriptive and inferential statistical methods (*t*-test, χ^2-test, Fisher exact test and Mantel Hanzel test) were used. (The final data from the original study were analyzed and tabulated in 55 tables, from which only a few were chosen and summarized for this article.)

Table 1 Personal characteristics with the highest percentages in the two groups and their analysis

	Highest percentages				
Characteristics	HRT group	Percentage (%)	Non-HRT group	Percentage (%)	Analysis
Age (years)	50–54	50.6	55–59	58.5	Significant ($P < 0.001$) ($t = -6.31$)
Employment	housewife	70.1	housewife	92.3	Significant ($P < 0.001$) ($\chi^2 = 21.9$)
Education	Secondary school	42.2	Primary school	60.8	Significant ($P < 0.001$) ($\chi^2 = 102.36$)
Number of years post-menopause	Less than 5	70.1	5–10	46.2	Significant ($P < 0.000$) ($t = -5.6$)
Number of children	3–4	51.9	More than 5	53.8	Significant ($P < 0.000$) ($t = -4.6$)

RESULTS

The average age was 53 years in the HRT group and 56 years in the non-HRT group. The highest age range in the HRT group was 50–54 years (78%). There was a significant difference in the average age between the two groups ($P < 0.001$). For the two groups, 70.1% of the women were 5–10 years post-menopause, 50% were less than 5 years post-menopause and 10% were more than 10 years post-menopause. The average number of years post-menopause was 3.9 in the HRT group and 5.9 in the non-HRT group. The personal characteristics with the highest percentages are illustrated in Table 1. For the HRT group, 91.9% of the women used the hormone as prescribed by their physician. All the subjects received oral HRT except one (0.6% used estrogen cream). A combination of estrogen and progesterone was used by 89% of the HRT group, and 10.4% used estrogen pills. Only 8.1% of those using the estrogen and progesterone combination did not use the combination continuously as advised by their physician. In the HRT group, 85.7% believed that sex was important or relatively important, but this percentage in the non-HRT group was 42.3%. While 14.3% of the HRT group believed sex was less, or least, important, 57.1% of the non-HRT group had the same belief. There was a significant difference between the HRT and non-HRT groups ($P < 0.001$). In the HRT group, 48.7% of those aged 50–54, 41% of those aged 55–59 and 31% of those aged 45–49 believed sex was important. There was a correlation between age and attitudes about the importance of sex in the HRT group ($P < 0.001$, $r = -0.11$). In the non-HRT group, 30.3% of those aged 55–59, 23.5% of those aged 50–54 and 12.5% of those aged 60–64 believed sex was important. There was no correlation between age and attitudes about the importance of sex in the non-HRT group. In comparison with the pre-menopausal period, 13% of the HRT group and 3.1% of the non-HRT group felt that sex was now more important or much more important, whereas there was no change in the importance of sex for 56.5% of the HRT group and 19.2% of the non-HRT group. In the non-HRT group, 77.7% felt that sex was less, or much less, important after menopause, and the corresponding percentage was 29.9% in the HRT group (Table 2). For the current HRT users, age was an important factor. Using the Mantel Hanzel test, it was found that age was critical for both HRT and non-HRT users in relation to their attitudes about the importance of sex ($Z = 5.96$, $P < 0.001$). The number of years post-menopause was an important factor for HRT users, but not for non-HRT users ($\chi^2 = 29.67$, $r = -0.3$, $P < 0.001$). Using the Mantel Hanzel test, the number of years post-menopause was an important factor only for HRT users ($Z = 6.25$, $P < 0.001$).

Table 2 Attitudes towards sex in the two groups in comparison with the pre-menopausal period

	Group			
	HRT		Non-HRT	
Importance of sex	No.	Percentage (%)	No.	Percentage (%)
Increased a lot	1	0.6	0	0
Increased	20	13	4	3.1
Unchanged	87	56.5	25	19.2
Decreased	36	23.4	50	38.5
Decreased a lot	10	6.5	51	39.2
Total	154	100	130	100
Test result	$P < 0.001$, d.f. = 2, $\chi^2 = 73.89$			

Women receiving HRT fared better in all aspects of their sex life, including libido, sexual activity, sexual satisfaction, sexual pleasure and frequency of orgasms, at the time of the study. There were significant differences between the HRT and non-HRT groups ($P < 0.001$).

In comparison with the pre-menopausal period:

1 Libido was unchanged for 59.7% of the HRT group and 14.6% of the non-HRT group, and was increased only in the HRT group (16.9%) (Table 3).

Table 3 Change in libido in the two groups in comparison with the pre-menopausal period

	Group			
	HRT		Non-HRT	
Change in libido	No.	Percentage (%)	No.	Percentage (%)
Increased	26	16.9	0	0
Unchanged	92	59.7	19	14.6
Decreased	28	18.2	84	64.6
Decreased a lot	8	5.2	27	20.8
Total	154	100	130	100
Test result	$P < 0.001$, d.f. = 2, $\chi^2 = 108.6$			

Table 4 Change in sexual activity in the two groups in comparison with the pre-menopausal period

	Group			
	HRT		Non-HRT	
Change in sexual activity	No.	Percentage (%)	No.	Percentage (%)
Increased	23	14.9	0	0
Unchanged	86	55.8	20	15.4
Decreased	32	20.8	75	57.7
Decreased a lot	13	8.4	35	26.9
Total	154	100	130	100
Test result	$P < 0.001$, d.f. = 2, $\chi^2 = 54.004$			

Table 5 Change in sexual satisfaction in the two groups in comparison with the pre-menopausal period

	Group			
	HRT		Non-HRT	
Change in sexual satisfaction	No.	Percentage (%)	No.	Percentage (%)
Increased	35	22.7	4	3.1
Unchanged	89	57.8	36	27.7
Decreased	15	9.7	64	49.2
Decreased a lot	15	9.7	26	20
Total	154	100	130	100
Test result	$P < 0.001$, d.f. = 2, $\chi^2 = 74.87$			

Table 6 Change in sexual pleasure in the two groups in comparison with the pre-menopausal period

	Group			
	HRT		Non-HRT	
Change in sexual pleasure	No.	Percentage (%)	No.	Percentage (%)
Increased	10	6.5	6	4.6
Unchanged	106	68.5	15	11.5
Decreased	28	18.2	61	46.9
Decreased a lot	10	6.5	48	36.9
Total	154	100	130	100
Test result	$P < 0.001$, d.f. = 3, $\chi^2 = 105.29$			

Table 7 Change in frequency of orgasms in the two groups in comparison with the pre-menopausal period

	Group			
	HRT		Non-HRT	
Change in frequency of orgasms	No.	Percentage (%)	No.	Percentage (%)
Increased	21	13.6	4	3.1
Unchanged	84	54.5	17	13.1
Decreased	35	22.7	69	53.1
Decreased a lot	14	9.1	40	30.8
Total	154	100	130	100
Test result	$P < 0.001$, d.f. = 2, $\chi^2 = 78.16$			

2 Sexual activity was unchanged for 55.8% of the HRT group and 15.4% of the non-HRT group, and was increased only in the HRT group (14.9%) (Table 4).
3 Sexual satisfaction was unchanged for 57.8% of the HRT group and 27.7% of the non-HRT group, and was increased for 22.7% of the HRT group and 3.1% of the non-HRT group (Table 5).
4 Sexual pleasure was unchanged for 68.5% of the HRT group and 11.5% of the non-HRT group, and was increased for 6.5% of the HRT group and 4.6% of the non-HRT group. For 24.7% of the HRT group and 83.8% of the non-HRT group, sexual pleasure was decreased compared to the pre-menopausal period (Table 6).
5 Frequency of orgasms was unchanged for 54.5% of the HRT group and 13.1% of the non-HRT group, and was increased for 13.6% of the HRT group and 3.1% of the non-HRT group (Table 7).

In comparison with the pre-menopausal period, there were significant differences between the two groups in relation to libido, sexual activity, sexual satisfaction, sexual pleasure and frequency of orgasms ($P < 0.001$).

CONCLUSION AND DISCUSSION

In this study, we found that sex was less important in the higher age group, but HRT users had more positive attitudes about the importance of sex ($P < 0.001$). The importance of sex in the HRT group did not change much after menopause, compared to the non-HRT group ($P < 0.001$). There were fewer changes in all aspects of sex life after menopause for those in the HRT group compared to those in the non-HRT group. The HRT group was more satisfied with their sex life. That is, the women had better libidos, were more sexually active, were more satisfied, experienced greater pleasure, and had more frequent orgasms

than those in the non-HRT group at the time of the study ($P < 0.001$). There were significant differences between the HRT and non-HRT groups ($P < 0.001$). During the month before the interview, 30.5% of the HRT group and 10.8% of the non-HRT group had experienced complete sexual satisfaction, 48.7% of the HRT group and 25.4% of the non-HRT group were more or less sexually satisfied, 11.7% of the HRT group and 33.1% of the non-HRT group were only a little satisfied, and 9.1% of the HRT group and 30.8% of the non-HRT group were not sexually satisfied. There were significant differences between the two groups ($P < 0.001$). Stadberg *et al*. found that loss of libido occurred in 37% of menopausal women, of whom only 21% were currently using estrogen. Non-hormonal treatment modalities had been used by 45% of the women and were reported to be effective against climacteric symptoms in 45% of the women compared with 90% for the HRT users.[3] In this study, the loss of libido occurred in 23.4% of the HRT group and 75.4% of the non-HRT group.

For this study, we tried to choose similar socio-economic and cultural samples by selecting the non-HRT group from the neighborhood of the HRT group. Even though the control sample was fairly chosen by interviewing the neighbors of the women receiving HRT, there were significant differences in age, education, employment, number of years post-menopause and number of children. Therefore, in this study, there is a limit on the accuracy of the evaluation of the effect of HRT on sex life and attitudes towards sex. This research was also conducted in a rich area of Tehran with well-off and well-educated residents. We suggest that this research be conducted in the poorer areas as well. In this study, we asked the women in the HRT and non-HRT groups questions about their sex life and attitudes towards sex post-menopause and pre-menopause, and also about the changes in these areas. For a more precise study on pre-menopausal sex life and attitudes towards sex compared with post-menopausal sex life and attitudes towards sex in both HRT and non-HRT groups, a longitudinal study should be conducted. With reference to the pre-menopausal period, the highest percentage of women who did not experience any change in their sex life or attitudes towards sex came from the HRT group. This means that the use of hormones prevented complications arising from a decrease in hormone production after menopause. Even though there is a limit on the accuracy of our findings, on the basis of the importance of sex during post-menopausal life, counseling on the benefits of HRT might be recommended. We suggest using the following procedure for the management of menopause: (i) recognize the impending hormonal dysfunction early in women who are presented for menopausal evaluation; (ii) obtain a detailed personal history and conduct a thorough physical examination of the patient; (iii) provide appropriate advice and education, and initiate HRT; (iv) monitor the patient regularly to assess the efficacy of treatment and detect any complications; and (v) adjust the treatment accordingly.[4]

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